

What is claimed is:

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1. An antimicrobial composition comprising a substance P peptide.
2. The antimicrobial composition of claim 1, wherein the amino acid sequence of the peptide comprises residues 1-8 of SEQ ID No: 1.
- 5 3. The antimicrobial composition of claim 2, wherein the amino acid sequence of the peptide comprises residues 1-8 of SEQ ID No: 2.
4. The antimicrobial composition of claim 2, wherein the sequence is at least 50% identical to the amino acid sequence of SEQ ID Nos: 1 or 2.
5. The antimicrobial composition of claim 1, wherein the peptide comprises the amino acid sequence Xaa₁-Pro-Xaa₂-Pro-Xaa₃-Xaa₄-Xaa₅-Xaa₆ (SEQ ID NO:12), wherein Xaa₁ and Xaa₂ are positively charged amino acids, Xaa₃ and Xaa₄ are any amino acids other than Pro, and Xaa₅ and Xaa₆ are hydrophobic amino acids.
- 10 6. The antimicrobial composition of claim 5, wherein Xaa₅ and Xaa₆ are aromatic amino acids.
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- 15 7. The antimicrobial composition of claim 1, wherein the amino acid sequence of the peptide comprises amino acids 1-10 of SEQ ID Nos: 1 or 2.
- ✓ 8. The antimicrobial composition of claim 1, wherein the amino acid sequence of the peptide comprises Arg-Pro-Lys-Pro-Gln-Gln-Phe-Phe-Gly-Leu-Xaa (SEQ ID NO:13), wherein Xaa is not a methionine residue.
- 20 9. The antimicrobial composition of claim 6, wherein Xaa₅ and Xaa₆ are selected from the group consisting of Phe and Trp.
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10. The antimicrobial composition of claim 1, having at least one dextrorotatory amino acid.

11. The antimicrobial composition of claim 1, wherein the peptide inhibits growth of a bacterium, fungus, or virus.

12. The antimicrobial composition of claim 11, wherein the peptide inhibits growth of a cell selected from the genera consisting of *Staphylococcus*, *Streptococcus*,
5 *Bacillus*, *Clostridium*, *Escherichia*, *Shigella*, *Campylobacter*, *Hemophilus*, *Proteus*,
Yersinia, *Klebsiella*, *Pseudomonas*, and *Serratia*.

13. The antimicrobial composition of claim 11, wherein the peptide inhibits growth of a cell selected from the genera consisting of *Aspergillus*, *Candida*, *Cryptococcus*,
Epidermophyton, *Histoplasma*, *Microsporum*, and *Trichophyton*.

10 14. The antimicrobial composition of claim 1, further comprising a second antimicrobial agent.

15 15. A method for inhibiting growth or survival of a microorganism, comprising directly contacting the microorganism with a substance P peptide or a peptide mimetic thereof.

16 16. The method of claim 15, wherein the peptide comprises amino acids 1-8 of SEQ ID Nos: 1 or 2.

17. The method of claim 16, wherein the peptide comprises amino acids 1-10 of SEQ ID Nos: 1 or 2.

18. The method of claim 15, wherein the microorganism is a bacteria or a
20 fungus.

19. The method of claim 18, wherein the bacteria is selected from the group of cutaneous, mucosal, or enteric bacteria.

20. A method of inhibiting a microbial infection, comprising identifying a mammal suffering from or at risk of developing the infection and administering to the
25 mammal a substance P peptide or peptide mimetic thereof.

22. A method of inhibiting a microbial infection, comprising introducing into an articulating joint of an animal a substance P peptide or peptide mimetic thereof.

24. A kit comprising at least one unit dose of an antimicrobial substance P peptide having at least 50% identity to positions 1-8 of SEQ ID Nos: 1 or 2.

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